Model Question Paper with effect from 2022-23 (CBCS 2022 Scheme)

USN | | | | | | | | | | |

BTX301

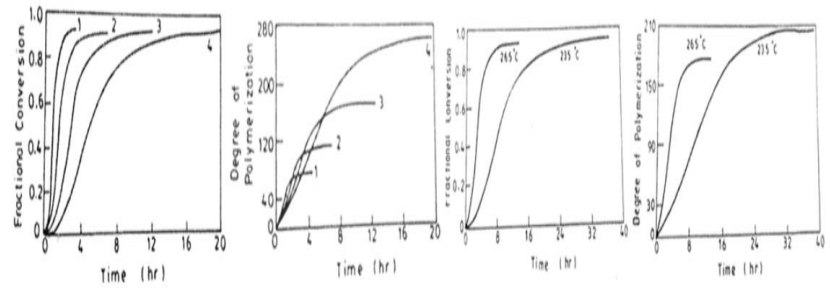
Third Semester Textile Technology B.Tech Degree Examination

Fiber Technology

TIME: 03 Hours **Max. Marks: 100**

Note: 01 Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

		Module -1	*Bloom's Taxonomy Level	COs	Marks
Q.01	a	**Wh**at are the essential requirements of Textile fibres	L1	CO1	10
	b	**Define** Bast fibres & **List** Types of Retting	L1	CO1	10
		OR			
Q.02	a	**How** do you classify textile fibres? **Outline** the classification of textile fibres with examples	L2	CO1	10
	b	**Define** BT-cotton & **State** it's direct & indirect benefits	L1	CO1	10
		Module-2			
Q. 03	a	**What** are protein fibres & **Name** the fibre forming substance in these fibres	L1	CO2	10
	b	One way heat transfer is involved in melt spinning whereas dry spinning involves one way heat transfer and one way mass transfer and wet spinning involves two mass transfer horrifies. **Justify** the above statement and from your justification **Show** that melt spinning is to fastest method of all and wet spinning is slow method and list 2 fibres produces from the methods	L4	CO2	10
		OR			
Q.04	a	**How** the Grading of wool is done as per Quality standards	L2	CO2	10
	b	Nylon polymer of density was 1.14g/cm3 spun using melt spinning method at a speed of 4000mt/min and mass output rote of 40gm/min with 40 holes in the spinneret **Determine** linear density of the individual filament in both Tex and Denier	L3	CO2	10
		Module-3			
Q. 05	a	With the help of flow chart **Show** various steps involved in production of viscose rayon and also **Show** the reactions involved in each step	L2	CO3	10
	b	Usually wet spinning of all the fibres is done by directly dissolving polymer in the solvent but wet spinning of viscose rayon involves conversion of wood pulp in to soda cellulose xathate and regeneration of cellulose during spinning. **Justify** the above statement and **State** the chemical changes that take place during steeping ageing. Xanthaties and spinning step of viscose rayon production	L4	CO3	10
		OR			
Q. 06	a	What are spin finishes? List the objective and requirements of spin finishes	L1	CO3	10
	b	What are ultrafine and nano fibres. State the special features and application of these fibre	L1	CO3	10
		Module-4			
Q. 07	a	With the help of chemical reactions explain the production of PET using DMT route	L2	CO4	10
	b	i) Early polyester produced by Carothers was not successful ii)Melting and mixing DMF and EG gives better product then direct mixing iii) A temperature of 190°C is preferred over 150°C in DGT formation in DMT route. Analyse the above statement and justify your analysis.	L4	CO4	10

		OR			
Q. 08	a	With the help of chemical reactions Explain the production of N-66	L2	CO4	10
	b	 Fig:A Fig:B Fig:C Fig:D Analyse & justify the above graph with respect to N-66 Production	L4	CO4	10
		Module-5			
Q. 09	a	Classify high performance fibres based on mechanical properties and list few high performance fibres and state the special feature of high performance fibre	L2	CO5	10
	b	Draw chemical(molecular) structure of N-6, N-66, Nomex and Kevlar and from the structure show that Kevlar is more thermally resistant than N6 or N66	L3	CO5	10
		OR			
Q. 10	a	With the help of line diagram explain production of Boron fibres by CVD and SIC by pyrolysis method	L2	CO5	10
	b	Prove that young's modulus of UHMWHDPE is ¼ or diamond and manufacturing of glass fibres need glass forms to be added	L3	CO5	10

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.

Model Question Paper with effect from 2022-23 (CBCS 2022 Scheme)

USN | | | | | | | | | | | **BTX302**

Third Semester Textile Technology B.Tech Degree Examination

Chemical Processing of Textiles-I

TIME: 03 Hours **Max. Marks: 100**

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

		Module -1	*Bloom's Taxonomy Level	COs	Marks
Q.01	a	Outline the preparatory operations and sequences carried out in a Wool wet processing	CO1	L1	5
	b	Explain the mechanism of cotton desizing	CO1	L2	5
	c	With a neat sketch, write the working of a plate singeing machine	CO1	L2	10
		OR			
Q.02	a	Classify impurities found in raw silk with examples	CO1	L2	5
	b	State the objectives of sinzing, shearing and cropping	CO1	L1	5
	c	With a neat sketch, write the method of degumming of silk fabric in a winch	CO1	L2	10
		Module-2			
Q. 03	a	Compare the Hydrolytic and Oxidative bleaching	CO2	L2	5
	b	Indicate the method of cotton bleaching with bleaching powder	CO2	L1	5
	c	Write the various factors affecting cotton due to Mercerization	CO2	L2	10
		OR			
Q.04	a	Outline the test method for degree of mercerization process	CO2	L2	5
	b	Indicate the modern developments in mercerization	CO2	L1	5
	c	With a neat sketch, write the method of mercerization of cotton fabric	CO2	L2	10
		Module-3			
Q. 05	a	Differentiate between hot and cold mercerization	CO3	L2	5
	b	Classify the dyes according to the principal fibre classes	CO3	L2	5
	c	Write the hot method of vat dyeing with dyeing of cotton	CO3	L2	10
		OR			
Q. 06	a	Outline the various machines used for yarn mercerization	CO3	L2	5
	b	State the effect of fibre structure on dyeing behavior	CO3	L1	5
	c	Explain the method of water and energy management in preparatory processes	CO3	L2	10
		Module-4			
Q. 07	a	State the various theory of dyeing	CO4	L1	5
	b	Classify direct and vat dyes	CO4	L2	5
	c	Outline the method of dyeing of cotton using hot brand reactive dyes	CO4	L3	10
		OR			
Q. 08	a	Indicate the fuction of electrolyte with examples	CO4	L1	5
	b	State the properties of direct and acid dyes	CO4	L1	5
	c	Explain with suitable examples, the effect of dye bath temperature, material to liquor ratio	CO4	L2	10
		Module-5			
Q. 09	a	State the properties and dyeing conditions of vat dyes	CO5	L1	5

	b	Describe briefly, method of dyeing of silk using reactive dyes	CO5	L2	5
	c	Explain the method of dyeing of cotton using Sulphur dyes	CO5	L2	10
OR					
Q. 10	a	List the properties of Basic dyes and dyeing conditions	CO5	L1	5
	b	Describe briefly, method of dyeing of cotton using Azoic dyes	CO5	L2	5
	c	Explain the method of dyeing of silk using acid dyes	CO5	L2	10

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.

Model Question Paper with effect from 2022-23 (CBCS 2022 Scheme)

USN | | | | | | | | | | | **BTX303**

Third Semester Textile Technology B.Tech Degree Examination

Weaving Technology- I

TIME: 03 Hours **Max. Marks: 100**

Note: 01 Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

		Module -1	*Bloom's Taxonomy Level	COs	Marks
Q.01	a	Discuss the necessity of weaving preparatory process. State the objects of winding & how these objects are fulfilled explain.	L2	CO1	10
	b	What are uster classimate system? Give the principle and usefulness of uster classimate system. Explain how uster classimate- II system classify the yarn faults.	L2	CO1	101
		OR			
Q.02	a	Give the classification of auto winding machine. List and discuss the salient features of Auto coner winding machine.	L1	CO1	10
	b	What are the yarn clearers? With the help of a flow chart explain the detection of yarn faults using photo electric yarn clearers.	L2	CO1	10
		Module-2			
Q. 03	a	How automatic creel in modern warping machines are useful? Explain in brief. Give the salient features of modern sectional warping machine.	L2	CO2	10
	b	List what are the special yarn quality parameters are considered to weave on shuttle less looms.	L1	CO2	10
		OR			
Q.04	a	State the objects of weft winding. What are the systems of weft winding? How rewound system is useful? State its advantages.	L1	CO2	10
	b	Give the comparison between semi-automatic and fully automatic Pirn winding machine. List the salient features of fully automatic pirn winding machine.	L1	CO2	10
		Module-3			
Q. 05	a	Why sizing is important for cotton yarns? State its objects. What are the techniques of sizing explain in brief?	L1	CO3	10
	b	Explain with the help of a sketch the preparation of size paste using pressure cooker. Give the size recipe for sizing of cotton yarns.	L2	CO3	10
		OR			
Q. 06	a	Give the different drying principles of sized yarn. State the advantages of multi cylinder drying of warp yarns.	L1	CO3	10
	b	Discuss the factor contribute to the size pick-up of yarns. Explain in brief.	L2	CO3	10
		Module-4			
Q. 07	a	How the stretch on sizing machine is measured? Discuss the effect of stretch on elongation at break, breakage rate and weaving performance.	L2	CO4	10
	b	What is migratory behavior of warp ends in sizing? Discuss the factors which affects migration of warp ends.	L2	CO4	10
		OR			
Q. 08	a	What are the modern concepts of sizing? What is solvent sizing? State the advantages of solvents sizing.	L1	CO4	10

	b	What is drawing and denting-in? Explain in brief the automatic drawing and denting process.	L2	CO4	10
Module-5					
Q. 09	a	Discuss when staggering of healds is suggested. What is positive shedding? Explain with the help of a sketch. State its advantages.	L2	CO5	10
	b	What are shuttle checking devices? How they are useful in reducing the velocity of the shuttle. Discuss the shuttle checking devices used in under pick loom?	L2	CO5	10
OR					
Q. 10	a	What is sley eccentricity? Discuss the factors which affects sley eccentricity. Givethe practical significance of sley eccentricity.	L2	CO5	10
	b	Explain with the help of sketch the working of cone under picking. How thestrength and timings are altered discuss in brief.	L2	CO5	10

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